

CLAIMS

- 1 1. A system for data base management, comprising:
 - 2 at least one memory device suitable to hold a database having a plurality of tables
 - 3 of data, wherein each table can occupy at least one extent;
 - 4 a buffer cache suitable to store a plurality of said extents;
 - 5 a database engine suitable to process a plurality of queries with respect to
 - 6 particular said data by:
 - 7 reviewing each said query to determine a respective extents list of said extents
 - 8 containing said particular said data needed by that said query;
 - 9 retrieving said extents from said memory devices as ordered in said extents
 - 10 lists;
 - 11 storing said extents that are retrieved in said buffer cache; and
 - 12 executing said queries on said particular said data in respective said extents
 - 13 stored in said buffer cache to determine respective results; and
 - 14 a query monitor suitable to re-order said extents lists so that said extents that are
 - 15 retrieved and stored in said buffer cache are used more efficiently by said
 - 16 queries.

1 2. The system of claim 1, wherein:

2 said query monitor is suitable to monitor which said extents are presently in said
3 buffer cache and to re-order said extents lists so that said extents already
4 stored in said buffer cache are used more efficiently by said plurality of
5 queries.

1 3. The system of claim 1, wherein:

2 said query monitor is suitable to monitor which said extents in said buffer cache
3 said database engine is currently executing some said queries against; and
4 said query monitor is suitable to re-order said extents lists so that said extents
5 already stored in said buffer cache are used more efficiently by other said
6 queries.

1 4. The system of claim 1, wherein:

2 said query monitor is suitable to re-order said extents lists so that some said
3 queries are executed at least partially concurrently using at least one same
4 said extent stored in said buffer cache.

1 5. The system of claim 1, wherein:

2 said query monitor is suitable to re-order said extents lists so that some said
3 queries are executed contiguously using at least one same said extent stored in
4 said buffer cache.

1 6. The system of claim 1, wherein:

2 said database engine is suitable queue said plurality of queries into a query list;

3 and

4 said query monitor is suitable to re-order said query list so that said extents that

5 are retrieved and stored in said buffer cache are used more efficiently by said

6 queries.

1 7. A method for data base management, comprising the steps of:

2 (a) receiving a plurality of queries with respect to data in at least one of a

3 plurality of tables in a database, wherein each table occupies at least one

4 extent;

5 (b) reviewing each said query and determining a respective extents list of said

6 extents containing said data needed by that said query; and

7 (c) re-ordering said extents lists based on an order calculated to be more efficient

8 for execution of said plurality of queries.

9

1 8. A method for data base management, comprising the steps of:

2 (a) receiving a plurality of queries with respect to data in at least one of a

3 plurality of tables in a database, wherein each table occupies at least one

4 extent;

5 (b) reviewing each said query and determining a respective extents list of said

6 extents containing said data needed by that said query;

7 (c) re-ordering said extents lists based on an order calculated to be more efficient

8 for execution of said queries;

9 (d) loading said extents from said database as ordered in said extents lists into a

10 buffer cache; and

11 (e) executing said queries on said data in respective said extents in said buffer

12 cache to determine respective results.

1 9. The method of claim 8, wherein:

2 said step (c) includes monitoring which said extents are presently in said buffer

3 cache and re-ordering said extents lists so that at least some said extents

4 already in said buffer cache are used more efficiently by said plurality of

5 queries.

1 10. The method of claim 9, wherein:

2 said step (c) includes monitoring which said extents in said buffer cache some
3 said queries are currently being executed against and re-ordering said extents
4 lists so that at least some said extents already in said buffer cache are used
5 more efficiently by other said queries.

1 11. The method of claim 8, wherein:

2 said step (c) includes re-ordering said extents lists so that some said queries are
3 executed at least partially concurrently in said step (e) using at least one same
4 said extent in said buffer cache.

1 12. The method of claim 8, wherein:

2 said step (c) includes re-ordering said extents lists so that some said queries are
3 executed contiguously in said step (e) using at least one same said extent in
4 said buffer cache.

1 13. The method of claim 8, wherein:

2 said step (a) includes queuing said plurality of queries into a query list; and
3 said step (c) includes re-ordering said query list so that at least some said extents
4 in said buffer cache are used more efficiently by said queries.

1 14. A system for data base management, comprising:

2 means for receiving a plurality of queries with respect to data in at least one of a
3 plurality of tables in a database, wherein each table occupies at least one
4 extent;

5 means for reviewing each said query and determining a respective extents list of
6 said extents containing said data needed by that said query;

7 means for re-ordering said extents lists based on an order calculated to be more
8 efficient for execution of said queries;

9 means for loading said extents from said database as ordered in said extents lists
10 into a buffer cache; and

11 means for executing said queries on said data in respective said extents in said
12 buffer cache to determine respective results.

1 15. The system of claim 14, wherein:

2 said means for re-ordering includes means for monitoring which said extents are
3 presently in said buffer cache and said means for re-ordering re-orders said
4 extents lists so that at least some said extents already in said buffer cache are
5 used more efficiently by said plurality of queries.

1 16. The system of claim 14, wherein:

2 said means for re-ordering includes means for monitoring which said extents in
3 said buffer cache some said queries are currently being executed against and
4 said means for re-ordering re-orders said extents lists so that at least some
5 said extents already in said buffer cache are used more efficiently by other
6 said queries.

1 17. The system of claim 14, wherein:

2 said means for re-ordering re-orders said extents lists so that some said queries
3 are executed at least partially concurrently by said means for executing using
4 at least one same said extent in said buffer cache.

1 18. The system of claim 14, wherein:

2 said means for re-ordering re-orders said extents lists so that some said queries
3 are executed contiguously by said means for executing using at least one
4 same said extent stored in said buffer cache.

1 19. The system of claim 14, wherein:

2 said means for receiving queues said plurality of queries into a query list; and
3 said means for re-ordering re-orders said query list so that at least some said
4 extents that are retrieved and stored in said buffer cache are used more
5 efficiently by said queries.

1 20. A computer program, embodied on a computer readable storage medium: the
2 computer program comprising:
3 a code segment that receives a plurality of queries with respect to data in at least
4 one of a plurality of tables in a database, wherein each table occupies at least
5 one extent;
6 a code segment that reviews each said query and determines a respective extents
7 list of said extents containing said data needed by that said query;
8 a code segment that re-orders said extents lists based on an order calculated to be
9 more efficient for execution of said queries;
10 a code segment that loads said extents from said database as ordered in said
11 extents lists into a buffer cache; and
12 a code segment that executes said queries on said data in respective said extents in
13 said buffer cache to determine respective results.